IN THE CLAIMS

Please amend the claims as follows:

1-17 (Canceled)

18. (Currently Amended) The device of claim ~~15~~ 98 where the repolarizing reflector attenuates the beam.

19-37. (Canceled)

38. (Original) An optical device comprising:

a first polarizing beam splitter having first pass and rejection axes, and positioned to receive an incident beam,

a second polarizing beam splitter having second pass and rejection axes aligned respectively with the first rejection and pass axes, and positioned at an acute angle to the first splitter;

a repolarizing reflector for interconverting a polarization of the beam between the pass and rejection axes of the beam splitters, and positioned so that both beam splitters encounter the beam at least twice.

39. (Original) The device of claim 38 where the incident beam has a single polarization mode.

40. (Original) The device of claim 38 further comprising a source including a focusing element for the incident beam.

41. (Original) The device of claim 40 where the source further includes a folding mirror for reflecting the beam to the first beam splitter.

42. (Original) The device of claim 38 further including a projection screen positioned to receive the beam after it has encountered both of the beam splitters twice.

43. (Original) The device of claim 42 where the screen is positioned at the location of the second beam splitter.

44. (Original) The device of claim 38 where the repolarizing reflector is positioned non-diagonally with respect to at least one of the beam splitters.

45. (Original) A method for projecting an image, comprising:

transmitting an incident beam from a source through a pass axis of a first polarizing beam splitter;

reflecting the beam from a rejection axis of a second polarizing beam splitter positioned nonorthogonally with respect to the first beam splitter;

reflecting and repolarizing the beam;

reflecting the beam from a rejection axis of the first polarizing beam splitter;

transmitting the beam through a pass axis of the second polarizing beam splitter to a screen.

46. (Original) The method of claim 45 where the operations are performed in the sequence listed.

47. (Original) The method of claim 45 where the reflecting and repolarizing are performed at the same time.

48. (Original) The method of claim 45 where the pass and rejection axes of the first beam splitter correspond respectively to the rejection and pass axes of the first beam splitter.

49. (Original) The method of claim 45 where the first and second beam splitters are positioned at an acute angle to each other.

50-59. (Canceled)

60. (Original) An optical device comprising a plurality of cascaded units, each unit including at least one polarizing beam splitter having pass and rejection axes, at least one repolarizing reflector for converting a polarization of an incident beam between the pass and the rejection axes, and an element for manipulating the incident beam in addition to lengthening its path.

61. (Original) The device of claim 60 where each unit includes a second polarizing beam splitter having pass and rejection axes aligned with the rejection and pass axes of the first polarizing beam splitter.

62. (Original) The device of claim 60 where the element for manipulating the incident beam in at least one of the units is an attenuator.

63. (Original) The device of claim 62 where the attenuator is variable.

64. (Original) The device of claim 62 where the attenuator varies the repolarization amount of the incident beam in the repolarizing reflector.

65. (Original) The device of claim 60 where the polarizing beam splitter in each unit converts the polarization of only a portion of the incident beam of that unit.

66. (Original) The device of claim 65 where the beam portion is a band of wavelengths.

67. (Original) The device of claim 65 where the beam portion is different for different ones of the units.

68. (Original) A method of mixing different wavelength bands of a polarized beam, comprising, for a first of the wavelength bands:

transmitting an incident beam containing all the wavelength bands to a polarizing beam

splitter having pass and rejection axes that are effective only over one of the wavelength bands, and that passes the other wavelength bands;

converting the polarization of the one wavelength band of the incident beam between the pass and rejection axes of the splitter and attenuating the one wavelength band;

forming an exit beam of the attenuated one wavelength band and the passed other wavelength bands;

iterating the above operations for each of the other wavelength bands, the incident beam of each iteration being the exit beam of the previous iteration.

69. (Original) The method of claim 68 where the wavelength bands are red, green, and blue.

70. (Original) The method of claim 68 further comprising again converting the polarization of the one wavelength band during each of the iterations.

71. (Original) The method of claim 70 further comprising again attenuating the one wavelength band during each of the iterations.

72. (Original) The method of claim 68 where the converting and repolarizing operations occur at the same time.

73. (Original) The method of claim 72 where attenuating the one wavelength band comprises converting its repolarization by a variable amount.

74-97. (Canceled)

98. (New) An optical device comprising:

a first polarizing beam splitter positioned to receive an incident beam,

a repolarizing reflector positioned to receive the beam from the first splitter, and being configured to perform an optical function in addition to repolarizing and reflecting the beam;

a second polarizing beam splitter positioned at an angle to the first splitter to receive the reflected beam from the repolarizer.

99. (New) The device of claim 18 where the repolarizing reflector attenuates the beam by changing its phase.

100. (New) The device of claim 18 where the repolarizing reflector attenuates the beam by a variable amount.

101. (New) The device of claim 100 further including a controller for varying the amount of attenuation.

102. (New) The device of claim 18 further including a source of the incident beam.

103. (New) The device of claim 18 where the incident beam is received from multiple sources.

104. (New) The device of claim 103 where at least one of the polarizing beam splitters has pass and rejection axes effective for only a portion of wavelengths in the incident beam.

105. (New) The device of claim 18 further comprising a transmissive screen positioned to receive the reflected beam.

106. (New) The device of claim 105 further comprising optics for focusing an image from a source upon the screen. (New)

107. (New) The device of claim 105 where the screen is positioned in substantially the same location as one of the polarizing beam splitters.

108. (New) The device of claim 18 where the splitters are positioned non-orthogonally to each other.

109. (New) The device of claim 18 where the repolarizing reflector receives the beam after it has encountered both of the polarizing beam splitters.

110. (New) The device of claim 109 where the repolarizing reflector receives the beam after it has passed through one of the polarizing beam splitters and reflected from the other of the polarizing beam splitters.

111. (New) The device of claim 18 where the polarizing beam splitters are positioned orthogonally to each other.

112. (New) The device of claim 18 further comprising a further repolarizing reflector.

113. (New) The device of claim 42 where the incident beam, the splitters, and the reflector are all positioned on the same side of the screen.

114. (New) The device of claim 42 further comprising a source for providing the incident beam, the source being configured to project an image upon the screen.

115. (New) An optical device comprising a plurality of cascaded units, each of the units including:

a first polarizing beam splitter positioned to receive an incident beam to the each unit,

a repolarizing reflector positioned to receive the beam from the first splitter, and being configured to attenuate the beam in addition to repolarizing and reflecting it;

a second polarizing beam splitter positioned at an angle to the first splitter to receive the reflected beam from the repolarizer.

116. (New) The device of claim 115 where the attenuation of at least one of the repolarizing reflectors is variable.

117. (New) The device of claim 116 further comprising a controller for varying the attenuation of the beam.

118. (New) The device of claim 115 where the polarizing beam splitters in at least one of the units have pass and rejection axes effective for only a portion of wavelengths in the incident beam.

119. (New) The device of claim 118where the attenuation of the repolarizing reflector in the at least one unit is variable.

120. (New) The device of claim 118 where the polarizing beam splitters in another of the units have pass and rejection axes effective for only a different portion of wavelengths in the incident beam.

121. (New) The device of claim 120 where the attenuation of the repolarizing reflector in the other unit is variable independently of the at least one unit.

122. (New) The device of claim 120 further comprising a plurality of controllers for varying the attenuation in a plurality of the units independently of each other.